RMT
Integrated Environmental Solutions

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May 15, 2000

Ms. Gwen Zervas
Case Manager
New Jersey Department of Environmental Protection (NJDEP)
Bureau of Federal Case Management
Division of Responsible Site Party Remediation
CN 028
Trenton, NJ 08625-0028

Subject: L.E. Carpenter & Company (LEC) - NJD002168748
NJDEP Review of the MW19/Hot Spot 1 Area Remedial Investigation Report

Dear Ms. Zervas:

RMT installed, developed, and sampled monitoring wells MW-19-6, MW-19-7, & MW-19-8 in October 1999 at the request of the United States Environmental Protection Agency (USEPA) and NJDEP. We included the results of these activities in the subject report dated March 2000. Subsequently, the NJDEP and USEPA reviewed the report and issued comments via your April 13, 2000 letter, which was received by LEC on April 17, 2000. On behalf of LEC, RMT, Inc. (RMT) has prepared this response to your April 13 letter. The following comments relate to each of the 3 numbered issues in that letter:

1. Field Adjustment of Proposed Monitoring Well Locations

The NJDEP April 13 letter states that MW-19-8 was installed south of the originally proposed location and that it may not be positioned at the most downgradient point necessary to intercept the contaminant plume. In addition, the letter states that exceedences of groundwater quality criteria in MW-19-6 and MW-19-7 means that a "clean zone" was not established. However, based on the data collected to date, RMT believes that complete delineation has been achieved and that no further wells are necessary for delineation purposes at this time. The following information is provided to further support and clarify our position on this matter.

Section 2.2 of our March 2000 report describes the presence of the 24-inch diameter Rockaway River Regional Interceptor Sewer with a gradient from southwest down to the northeast directly underneath Ross Street (Figure 1). The actual location of the interceptor sewer was determined after discussions were held with Mr. Ron Piccolo of Elston T. Killam Associates, Inc., Milburn, New Jersey (Killam). RMT requested and received a copy of the interceptor sewer plan from Killam. The sewer plan and profile is included as Appendix D in RMT's

March 2000 report. The copy of the plan and profile was received after submittal of RMT's August 1999 workplan.

According to the plan and profile the sewer line is constructed over 6-inches of stone base. In addition, based on previously measured groundwater elevations, the profile shows that the sewer line intercepts the water table about 70 feet northeast of manhole W-16, which is located about 50 feet southwest of Hydropunch location HP-1 (Figure 1). This information indicated that the sewer line would likely act to intercept and control shallow groundwater flow. If this were indeed the case, analytical results received from any wells installed on the northwest side of the sewer line would represent the quality of groundwater flowing towards the sewer line from the area north of the sewer, and would not be representative of groundwater migrating from LEC. On the day of well installation, RMT observed that the proposed location for MW-19-8 (the assumed furthest downgradient well) was too close to the sewer line to allow safe drilling. Based on the above information, RMT field-located all three monitoring wells approximately 20-feet southeast of the originally proposed locations.

The MW-19/Hot Spot 1 area groundwater elevation contours are shown on Figure 1, and verify that groundwater is intercepted by the regional sewer line. Groundwater flow at the northwest end of Building 9 is northward under a hydraulic gradient of approximately 0.01 feet/foot. Groundwater flow direction in the immediate vicinity of the sewer line is to the east-northeast under a hydraulic gradient of approximately 0.002 feet/foot. Such a decrease in hydraulic gradient is consistent with an influence on groundwater flow by the sewer lines' coarse-grained, high permeability stone base.

The groundwater flow directions are also consistent with the distribution of contaminants in the shallow aquifer. Isoconcentration contours for total BTEX levels (mg/L) are shown on Figure 2 with respect to the groundwater elevation contours. The isoconcentration lines are predominantly perpendicular to the groundwater elevation contours, and thus are in good agreement with the groundwater flow directions of Figure 1.

The groundwater flow directions and contaminant distributions both show that wells MW-19-7 and MW-19-8 are adequately positioned to monitor groundwater quality downgradient from the MW-19/Hot Spot 1 area at LEC.

2. Vertical Extent of LNAPL Constituents

To date, nine monitoring wells and four temporary (Hydropunch®) wells have been installed within the shallow water table. All permanent monitoring wells in the MW19/Hot Spot 1 area were screened across the water table so that each screen would intersect the water table surface. The screened intervals of these wells, as well as the sample locations from the Hydropunch® wells, are appropriate for monitoring the light non-aqueous phase liquids (LNAPL's) that are the focus of the MW-19/Hot Spot 1 investigations. Given that the constituents of concern are LNAPL's, and the lateral extent of contamination is limited, one would expect to find the highest concentrations of these constituents near the water table. In addition, data from GEI-2S and GEI-2I (Table 1) show that there is an upward vertical hydraulic gradient present in this area. Such an upward vertical gradient would be expected to increase as the regional sewer line is approached. Based on these facts, RMT believes that additional testing of deeper portions of the shallow aquifer is not warranted at this time.

3. Presence of Benzene

It is true that benzene may be present above a level of 1 ppb in MW-19-6 and MW-19-7. However, as shown on Figure 2, MW-19-7 defines the downgradient edge of the contaminant plume. None of the constituents of concern were detected in the shallow groundwater sample from HP-4, which was located immediately downgradient from MW-19-7.

RMT recommends that no further delineation work be performed in the MW-19/Hot Spot 1 area. Future monitoring should be performed at the frequency stipulated in the ROD. We also recommend development of a monitoring program for this area that will utilize results from the recently completed natural attenuation study that has been submitted under separate cover.

Sincerely,

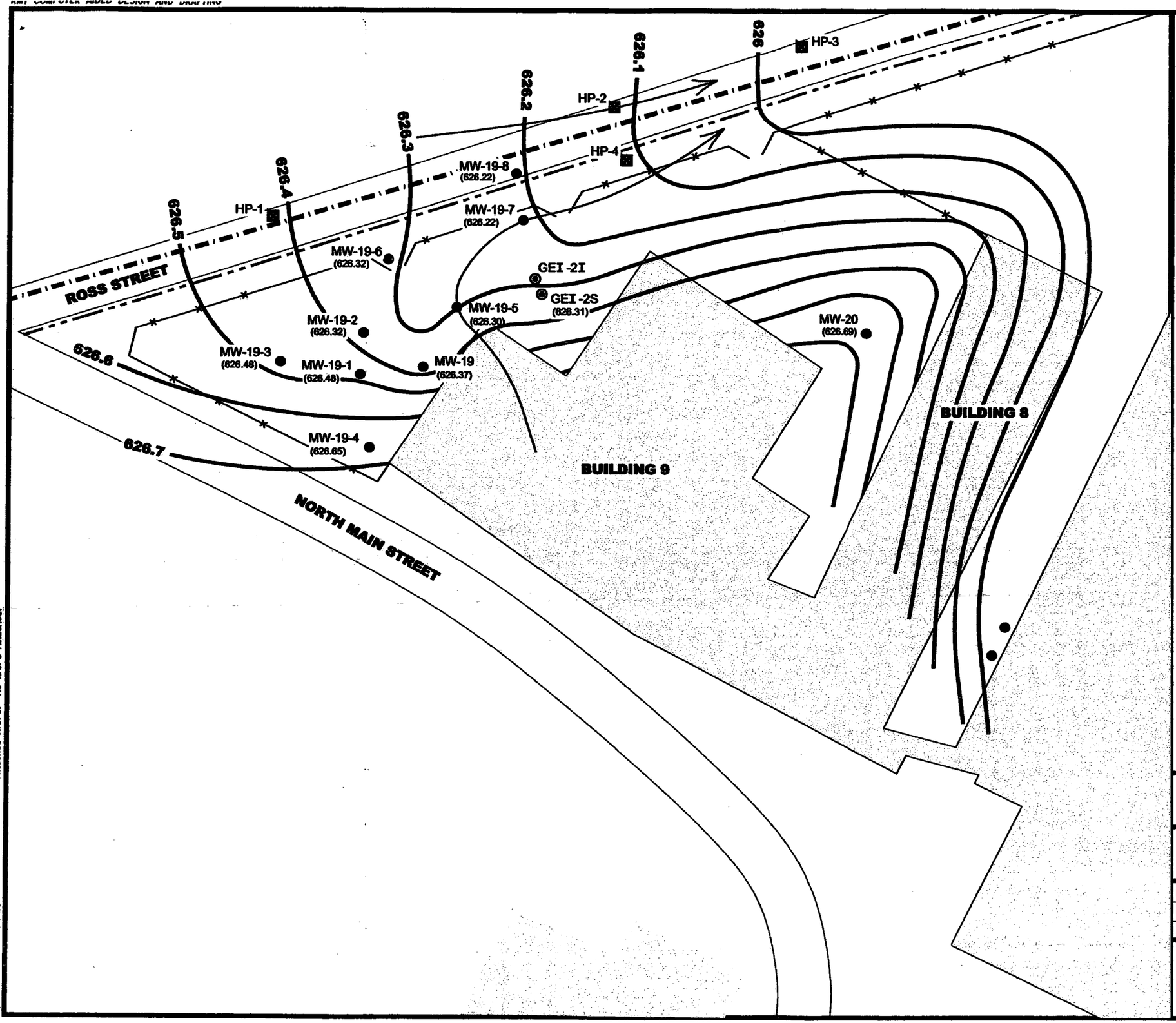
RMT, Inc.

Nicholas J. Clevett
Project Manager

Attachments: Figure 1: MW19/Hot Spot Shallow Groundwater Elevation Contours
Figure 2: Isoconcentration Contours for Total BTEX (PPM) in Shallow Groundwater
Table 1: MW19/Hot Spot 1 Water Level Elevations 1st Quarter 2000

cc: Cris Anderson (LEC)
Jim Dexter (RMT)
Galen Kenoyer - (RMT)
Central Files (2)

ART COMPUTER AIDED DESIGN AND DRAFTING



LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- APPROXIMATE LOCATION OF ROCKAWAY RIVER REGIONAL INTERCEPTOR SEWER
- 626 — GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- MW-19-7 (626.69) — MONITORING WELL LOCATION AND NUMBER WITH GROUNDWATER ELEVATION
- GEI-2S (626.31) — GEOPROBE INSTALLED PIEZOMETER LOCATION AND NUMBER WITH GROUNDWATER ELEVATION
- HP-3 — APPROXIMATE LOCATIONS OF HYDROPUNCH SAMPLES

NOTES

1. GROUNDWATER ELEVATIONS BASED ON LEVELS MEASURED ON JANUARY 17, 2000.

N

0 40' 80'

SCALE IN FEET

LE CARPENTER
WHARTON, NEW JERSEY

MW-19 HOT SPOT SHALLOW GROUNDWATER ELEVATION CONTOURS

DRAWN BY:	SJL	PROJECT NUMBER:	3668.10
CHECKED BY:	JDD	FILE NUMBER:	38681050.DWG
APPROVED BY:	G Kemrger	DATE:	MAY 2000

RMT INC.
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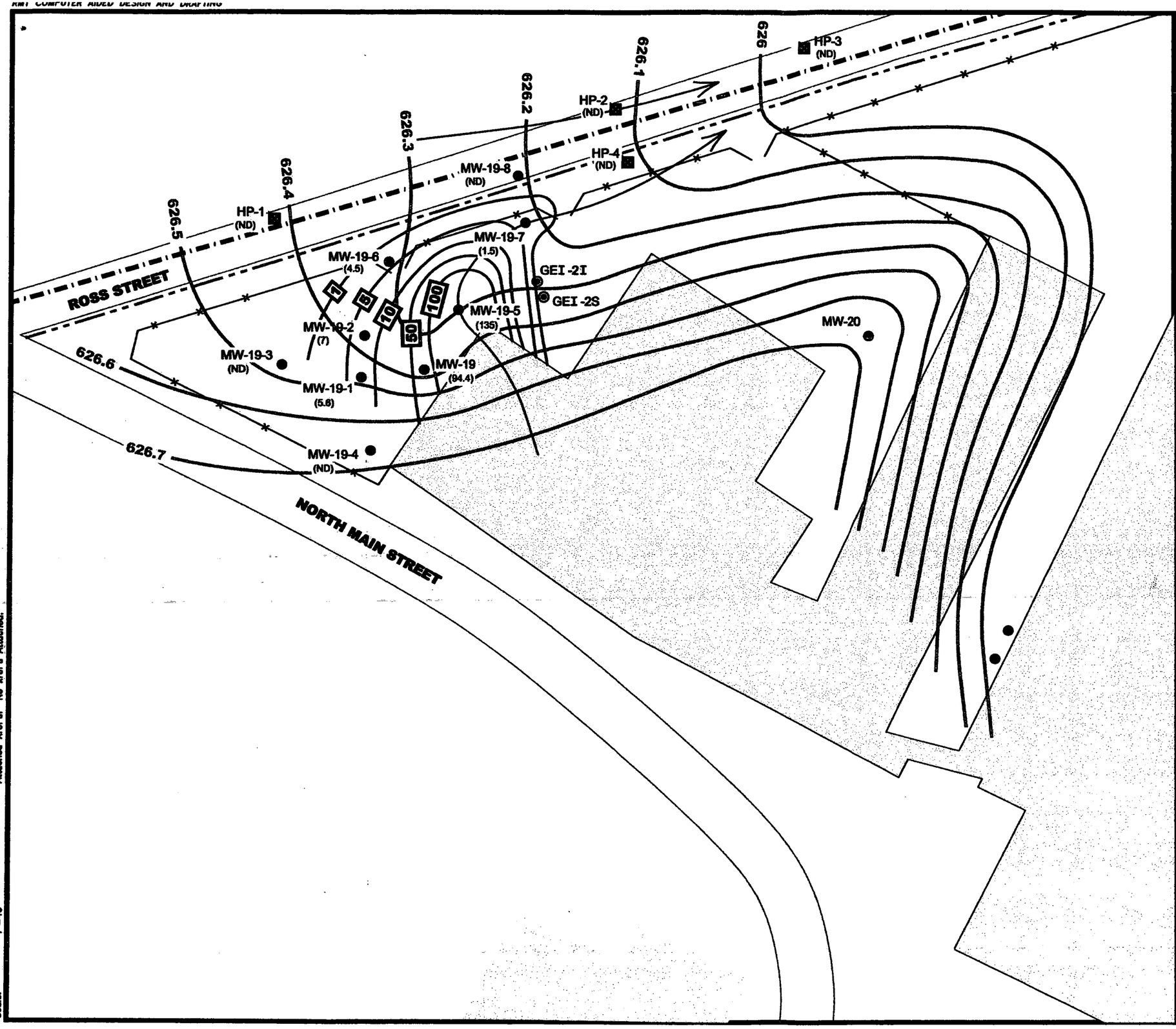
FIGURE 1



LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- APPROXIMATE LOCATION OF ROCKAWAY RIVER REGIONAL INTERCEPTOR SEWER
- 626 — GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- MW-19-7 (135) — MONITORING WELL LOCATION WITH CONCENTRATION OF TOTAL BTEX (mg/L)
- GEI-2S — GEOPROBE INSTALLED PIEZOMETER LOCATION AND NUMBER
- HP-3 — APPROXIMATE LOCATIONS OF HYDROPUNCH SAMPLES
- 50 — ISOCONCENTRATION CONTOUR FOR TOTAL BTEX (PPM)
- (ND) NOT DETECTED

NOTES

1. GROUNDWATER ELEVATIONS BASED ON LEVELS MEASURED ON JANUARY 17, 2000.

N

0 40' 80'

SCALE IN FEET

L.E. CARPENTER
WHARTON, NEW JERSEY

ISOCONCENTRATION CONTOURS FOR TOTAL BTEX (PPM) IN SHALLOW GROUNDWATER; MW-19 HOT SPOT AREA

DRAWN BY:	SJL	PROJECT NUMBER:	3668.10
CHECKED BY:	JDD	FILE NUMBER:	38681051.DWG
APPROVED BY:	G. Kenyon	DATE:	MAY 2000

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FIGURE 2

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TABLE 1
Water Level Elevations - 1st QUARTER 2000
L.E. Carpenter, Wharton, New Jersey
MW19 Hot Spot 1 Area

WELL LOCATION	WELL TYPE	BASELINE LOCATION				WELL INSTALLATION AND CONSTRUCTION INFORMATION									GEODETIC LOCATION		ELEVATIONS (FT. MSL)			QUARTERLY MEASUREMENT INFORMATION						
						MANAGING CONSULTANT	INSTALLATION DATE	TOTAL WELL DEPTH (FT)	WELL DIAMETER (IN)	SCREEN MATERIAL	SLOT SIZE (IN)	TOP OF SCREEN (FT)	BOTTOM OF SCREEN (FT)	SCREENED INTERVAL (FT)	AQUIFER SYSTEM	LATITUDE	LONGITUDE	GROUND	OUTER CASING	INNER WELL	MEAS. DATE	PRODUCT DEPTH	WATER DEPTH	PRODUCT ELEVATION	WATER ELEVATION	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ELEVATIONS [1]
GEI-2I	Piezometer	North	168.56	West	516.79	ROY F. WESTON	April to October 1989	46.28	2.00	PVC	0.02	31.50	41.50	10.00	I	40° 54' 17.4"	74°34' 43.1"	635.92	638.35	638.20	17-Jan-00	-	11.55	-	626.65	-	-
GEI-2S	Piezometer	North	164.27	West	507.48	ROY F. WESTON	April to October 1989	22.21	2.00	PVC	0.02	10.00	20.00	10.00	S	40° 54' 17.3"	74°34' 43.0"	635.46	637.87	637.67	17-Jan-00	-	11.36	-	626.31	-	-
MW-16S	Monitoring Well	North	125.49	West	267.06	ROY F. WESTON	April to October 1989	23.90	4.00	STEEL	0.02	7.37	17.41	10.00	S	40° 54' 15.9"	74°34' 40.4"	632.57	634.69	634.47	17-Jan-00	-	8.54	-	625.93	-	-
MW-19	Monitoring Well	North	115.39	West	540.93	ROY F. WESTON	May 20, 1991	17.00	4.00	STEEL	0.02	7.00	17.00	10.00	S	40° 54' 17.1"	74°34' 43.7"	636.72	639.24	638.88	17-Jan-00	-	12.51	-	626.37	-	-
MW-19-1	Monitoring Well	North	101.08	West	563.76	RMT, INC.	February 17, 1998	17.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	40° 54' 17.0"	74°34' 44.0"	636.50	639.26	638.86	17-Jan-00	-	12.38	-	626.48	-	-
MW-19-2	Monitoring Well	North	117.42	West	569.74	RMT, INC.	February 17, 1998	16.00	4.00	STEEL	0.01	6.00	16.00	10.00	S	40° 54' 17.2"	74°34' 44.0"	637.05	639.36	638.76	17-Jan-00	-	12.44	-	626.32	-	-
MW-19-3	Monitoring Well	North	90.55	West	595.86	RMT, INC.	February 18, 1998	16.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	40° 54' 17.1"	74°34' 44.5"	637.54	640.04	639.65	17-Jan-00	-	13.17	-	626.48	-	-
MW-19-4	Monitoring Well	North	76.99	West	546.79	RMT, INC.	February 18, 1998	16.00	4.00	STEEL	0.01	6.00	15.50	9.50	S	40° 54' 16.7"	74°34' 44.0"	636.27	638.44	637.74	17-Jan-00	-	11.09	-	626.65	-	-
MW-19-5	Monitoring Well	North	148.06	West	538.99	RMT, INC.	February 18, 1998	16.00	2.00	PVC	0.01	6.00	15.50	9.50	S	40° 54' 17.3"	74°34' 43.5"	636.39	639.07	638.74	17-Jan-00	-	12.44	-	626.30	-	-
MW-19-6 (1)	Monitoring Well	North	147.68	West	569.68	RMT, INC.	October 28, 1999	20.00	2.00	STEEL	0.02	10.00	20.00	10.00	S	40° 54' 17.5"	74°34' 43.8"	636.78	636.78	636.44	17-Jan-00	-	10.12	-	626.32	-	-
MW-19-7 (1)	Monitoring Well	North	188.83	West	524.71	RMT, INC.	October 29, 1999	20.00	2.00	STEEL	0.02	10.00	20.00	10.00	S	40° 54' 17.6"	74°34' 43.1"	636.00	636.00	635.60	17-Jan-00	-	9.38	-	626.22	-	-
MW-19-8 (1)	Monitoring Well	North	204.72	West	541.62	RMT, INC.	October 28, 1999	20.00	2.00	STEEL	0.02	11.00	20.00	9.00	S	40° 54' 17.8"	74°34' 43.2"	636.44	636.44	635.96	17-Jan-00	-	9.74	-	626.22	-	-
MW-20	Monitoring Well	North	213.31	West	374.3	ROY F. WESTON	May 21, 1991	14.00	4.00	STEEL	0.02	4.00	14.00	10.00	S	40° 54' 17.2"	74°34' 41.2"	634.82	637.03	636.77	17-Jan-00	-	10.08	-	626.69	-	-

(1) Wells installed during new RI efforts per NJDEP and EPA request to further delineate MW19/Hot Spot 1 Area
S: Shallow Aquifer System
I: Intermediate Aquifer System

Prepared By: Nicholas J. Clevett
RMT, Inc. Project Manager